LISTING OF THE CLAIMS

The following is a listing of claims pending in the application.

1. **(Previously Presented)** A cathode head suitable for use in an x-ray device and the cathode head comprising:

an emitter block;

an emitter attached to the emitter block and configured to generate electrons of an electron beam; and

at least one magnetic element that defines an opening within which a portion of the emitter is positioned.

2. **(Original)** The cathode head as recited in claim 1, wherein the at least one magnetic element comprises at least one electromagnet.

3. **(Original)** The cathode head as recited in claim 1, wherein the at least one magnetic element comprises at least one permanent magnet.

4. **(Original)** The cathode head as recited in claim 1, wherein the emitter block is substantially non-magnetic.

5. **(Canceled)**

6. **(Previously Presented)** The cathode head as recited in claim 1, wherein the emitter defines a longitudinal axis which extends through the opening defined by the at least one magnetic element.

7. **(Previously Presented)** The cathode head as recited in claim 1, wherein the at least one magnetic element comprises a pair of electromagnets, each of which defines an opening within which a respective portion of the emitter is positioned.

8. **(Original)** The cathode head as recited in claim 1, wherein the at least one magnetic element and the emitter block cooperate to create a magnetic field through which at least a portion of the electron beam passes.

9. **(Original)** The cathode head as recited in claim 1, wherein the emitter comprises at least one filament.

10. **(Previously Presented)** A cathode head suitable for use in an x-ray device and comprising:

a magnetic emitter block;

an emitter attached to the emitter block and configured to generate electrons for an electron beam that defines a focal spot; and

means for facilitating focal spot control, wherein the means generates a magnetic field with a magnetic flux density B having flux lines that are substantially perpendicular to a direction of travel of the electron beam.

11. **(Previously Presented)** The cathode head as recited in claim 10, wherein the means for facilitating focal spot control serves to adjust a position of the focal spot.

12. **(Previously Presented)** The cathode head as recited in claim 10, wherein the means for facilitating focal spot control enables at least lateral adjustments to a position of the focal spot.

13. – 14. **(Canceled)**

15. **(Original)** The cathode head as recited in claim 10, wherein the means for facilitating focal spot control implements an adjustable deflection of the electron beam.

16. **(Original)** The cathode head as recited in claim 10, wherein the means for facilitating focal spot control acts on the electron beam in a location proximate the emitter.

17. – 18. **(Canceled)**

19. **(Original)** The cathode head as recited in claim 10, wherein the means for facilitating focal spot control cooperates with the emitter block to create a magnetic field through which at least a portion of the electron beam passes.

20. **(Previously Presented)** An x-ray device, comprising:

a vacuum enclosure;

an anode substantially disposed within the vacuum enclosure, the anode including a target surface; and

a cathode head substantially disposed within the vacuum enclosure and comprising:

an emitter block;

an emitter attached to the emitter block and configured to emit electrons of an electron beam that defines a focal spot on the target surface of the anode; and

at least one magnetic element that defines an opening within which a portion of the emitter is positioned.

21. **(Previously Presented)** The x-ray device as recited in claim 20, wherein the at least one magnetic element comprises a pair of magnets, each of which defines an opening within which a respective portion of the emitter is positioned.

22. **(Original)** The x-ray device as recited in claim 20, wherein the at least one magnetic element comprises a permanent magnet.

23. **(Original)** The x-ray device as recited in claim 20, wherein the emitter block is substantially non-magnetic.

24. **(Original)** The x-ray device as recited in claim 20, wherein the emitter block is magnetic.

25. **(Previously Presented)** The x-ray device as recited in claim 20, wherein the emitter defines a longitudinal axis which extends through the opening defined by the at least one magnetic element.

26. **(Original)** The x-ray device as recited in claim 20, wherein the at least one magnetic element and the emitter block cooperate to create a magnetic field through which at least a portion of the electron beam passes.

27. **(Original)** The x-ray device as recited in claim 20, wherein the anode is a rotating anode.

28. **(Original)** The x-ray device as recited in claim 20, wherein the anode is a stationary anode.

29. **(Previously Presented)** A cathode head suitable for use in an x-ray device and comprising:

an emitter block;

a filament attached to the emitter block and defining a longitudinal axis, the filament being configured to emit electrons of an electron beam; and

first and second magnetic elements that define respective openings within which the emitter block is positioned.

30. **(Original)** The cathode head as recited in claim 29, wherein the emitter block is substantially non-magnetic.

31. **(Original)** The cathode head as recited in claim 29, wherein the emitter block is magnetic.

32. **(Previously Presented)** The cathode head as recited in claim 29, wherein at least one of the magnetic elements comprises an electromagnet.

33. **(Previously Presented)** The cathode head as recited in claim 1, wherein the at least one magnetic element is arranged such that flux lines of a magnetic flux density B of a magnetic field associated with the at least one magnetic element are substantially perpendicular to a direction of travel of an electron beam generated by the emitter.

34. **(Previously Presented)** The x-ray device as recited in claim 20, wherein the at least one magnetic element is arranged such that flux lines of a magnetic flux density B of a magnetic field associated with the at least one magnetic element are substantially perpendicular to a direction of travel of an electron beam generated by the emitter.

35. **(Previously Presented)** The cathode head as recited in claim 29, wherein a portion of the filament is positioned within one of the openings respectively defined by the magnetic elements.

36. **(Previously Presented)** The cathode head as recited in claim 29, wherein flux lines of a magnetic flux density B of a magnetic field associated with at least one of the magnetic elements are substantially perpendicular to a direction of travel of the electron beam.

37. **(Previously Presented)** The cathode head as recited in claim 29, wherein the emitter block substantially comprises ceramic.

38. **(Previously Presented)** The cathode head as recited in claim 29, wherein at least one of the magnetic elements comprises a permanent magnet.

39. **(Previously Presented)** The cathode head as recited in claim 29, wherein the first and second magnetic elements are disposed in a spaced apart arrangement with respect to each other.

40. **(Previously Presented)** A cathode head suitable for use in an x-ray, the cathode head comprising:

a magnetic emitter block;

an emitter attached to the magnetic emitter block; and

at least one magnetic element arranged such that flux lines of a magnetic flux density B of a magnetic field associated with the at least one magnetic element are substantially perpendicular to a direction of travel of the electron beam.